

SYSTEM AND METHOD FOR MAINTAINING A COMMON SENSE OF TIME ON A NETWORK SEGMENT

ABSTRACT OF THE DISCLOSURE

The system has a control center, a time master device and a plurality of distributed, time slave field devices in synchronization with a master clock of the time master device. The time master device periodically transmits a time distribution data unit. Each time slave field device has a timer adjustment element, a fixed rate clock and a variable clock. The timer adjustment element calculates a frequency ratio between the master clock and the fixed rate clock and uses the frequency ratio to calculate adjustment coefficients to adjust a local sense of time for each field device, such that a time stamp of each field device is synchronized to the master clock.